



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,673	03/10/2004	Ashish M. Sukhadia	CPCM:0046/FLE/FAR/STA 210	4144
47514 7590 10/30/2008 FLETCHER YODER (CHEVRON PHILLIPS) P. O. BOX 692289 HOUSTON, TX 77069			EXAMINER LEE, RIP A	
			ART UNIT 1796	PAPER NUMBER
			MAIL DATE 10/30/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/797,673	Applicant(s) SUKHADIA ET AL	
	Examiner RIP A. LEE	Art Unit 1796	

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 18-33, 36-39, 42, 43 and 46-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 18-33, 36-39, 42, 43, 46-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1796

DETAILED ACTION

This office action follows a request for continued examination (RCE) under 37 § C.F.R. 1.114, filed on January 22, 2008. Claims 1, 20, 38, and 46-48 were amended, and claims 40 and 41 were canceled. Claims 1-15, 18-33, 36-39, 42, 43, and 46-48 are presented for examination.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-15, 18-33, 36-39, 42, 43, and 46-48 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Claims recite the limitation that the chemically treated solid oxide is substantially free of zirconium and chromium. Any claims containing a negative limitation which does not have basis in the original disclosure are rejected under 35 U.S.C. 112, first paragraph for failing to comply with the written description requirement. *Ex Parte Grasselli*, 231 USPQ 393 (Bd. App. 1983), *aff'd mem.*, 738 F.2d 453 (Fed. Cir. 1984). See MPEP § 2173.05(i). The specification discloses metal-treated solid oxide on page 25, lines 24-26, page 27, lines 5-8, and page 35, lines 18-23. However, there is no disclosure of treatment of solid oxide with zirconium or with chromium. Therefore, it is deemed that the claimed subject matter is not described in the specification in such a way as to convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention.

Art Unit: 1796

3. Claims 1-15, 18-33, 36-39, 42, 43, and 46-48 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Claims recite the limitation that copolymer has a polydispersity index (M_w/M_n) of greater than or equal to about 4. The specification discloses polydispersity index of inventive polymer on page 4, line 24 (M_w/M_n less than or equal to about 20) and page 5, lines 5, 12, and 13 (M_w/M_n less than or equal to about 12, 10, and 6, respectively). While inventive polymers have specified upper bounds of polydispersity, there appears to be no teaching that polymers necessarily contain a lower limit of about 4. Notably, the specification is devoid of any indication that inventive polymers have a polydispersity within the range of about 4 to about 20, as implied in instant claim 1. In light of these considerations, it is deemed that the claimed subject matter is not described in the specification in such a way as to convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention.

4. Claims 1-15, 18-33, 36-39, 42, 43, and 46-48 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Claims recite the limitation that the copolymer has a HLMI/MI ratio of greater than or equal to about 35. The specification discloses high load melt index (HLMI) and melt index (MI) of inventive polymer on page 4, line 22 (HLMI = 8-180 dg/min, MI = 0.01-10). Polymers having a lower limit of HLMI = 8 may exhibit HLMI/MI in the range of 0.8 to 800, and polymers having an upper limit of HLMI = 180 may exhibit HLMI/MI in the range of 18-18,000. The HLMI/MI ratio for this subset of inventive polymer spans an entire range of 0.8-18,000. Even for the narrowest embodiment of the invention (HLMI = 11-100 dg/min, MI = 0.05-5; page 5, line 10), the ratio HLMI/MI lies in the range of 2.2-2000. There appears to be no teaching that

Art Unit: 1796

inventive polymers necessarily exhibit a lower limit of about 35, as indicated in the instant claims. In light of these considerations, it is deemed that the claimed subject matter is not described in the specification in such a way as to convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 102 / Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1-15, 18, 20-33, 36, 38, 39, 42, 43, 46, and 47 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over McDaniel *et al.* (U.S. 6,300,271).

McDaniel *et al.* teaches a catalyst comprising a transition metal complex, an organoaluminum, and a solid oxide treated with an electron withdrawing anion. The solid support is alumina or silica-alumina (col. 8, lines 7 and 14). Representative treated supports include sulfated alumina (examples 11-15), fluorided alumina (example 18), bromided alumina (example 25), chlorided alumina (examples 28-31), and chlorided silica-alumina (example 37). Sulfated silica-alumina and bromided silica-alumina are also within the scope of the invention. The organoaluminum compounds are shown in col. 4, lines 7-15. Transition metal complexes are shown in claim 8; the compounds $\text{Et(Ind)}_2\text{ZrCl}_2$, $\text{Et(Ind)}_2\text{HfCl}_2$, $\text{Et(ThInd)}_2\text{ZrCl}_2$, $\text{Et(ThInd)}_2\text{HfCl}_2$, $\text{Me}_2\text{Si(Ind)}_2\text{ZrCl}_2$, $\text{Me}_2\text{Si(Ind)}_2\text{HfCl}_2$, $\text{Me}_2\text{Si(ThInd)}_2\text{ZrCl}_2$, and $\text{Me}_2\text{Si(2-MeInd)}_2\text{ZrCl}_2$ are representative. Catalysts are used to prepare copolymer of ethylene with other alpha olefins, such as ethylene-hexene copolymer (col. 6, lines 33-42). Reactions are carried out in isobutane diluent (col. 6, line 12).

McDaniel *et al.* is deficient in characterizing the resulting polymer as recited in the instant claims. However, in view of the fact that the process of preparing polymer is substantially the same as that recited in the instant claims, a reasonable basis exists to believe that the resulting polymer exhibits substantially the same properties and characteristics. (It is noted that the claims are drawn to a method of polymerizing olefins, rather than a process for

Art Unit: 1796

making film. It is the examiner's position that the film properties recited in the instant claims are conditional properties, rather than inherent properties, because a variety of factors such as stretching methods, nucleation, *inter alia*, directly affect film clarity and film haze). Since the PTO can not perform experiments, the burden of proof is shifted to the Applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112-2112.02. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

7. Claims 1-15, 18, 20-33, 36, 38, 39, 42, and 43 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over McDaniel *et al.* (U.S. 6,391,816).

McDaniel *et al.* teaches a catalyst comprising a transition metal complex, an organoaluminum, and a solid oxide treated with an electron withdrawing anion. The support is a vanadium containing bromided alumina or vanadium containing chlorided alumina (col. 10, lines 45-50; col. 12, lines 3-23). The organoaluminum compounds are shown in col. 10, lines 7-15. Transition metal complexes are shown in the text in columns 5-10; see also claim 14. The compounds $\text{Ph}(\text{C}_8\text{H}_{16})\text{Si}(\text{Ind})_2\text{HfCl}_2$ (col. 7, line 1), and constrained geometry metallocene $\text{Me}_2\text{Si}(\text{N-}i\text{Pr})\text{TiCl}_2$ (col. 8, line 10) are representative. Other bridged metallocenes that are useful for practicing the invention include isopropylidene(cyclopentadienyl) (fluorenyl)zirconium dichloride and diphenylsilyl(cyclopentadienyl)(fluorenyl)zirconium dichloride.[†] Catalysts are used to prepare copolymer of ethylene with other alpha olefins (col. 14, lines 32-36). Reactions are carried out in isobutane diluent (col. 14, line 56).

McDaniel *et al.* is deficient in characterizing the resulting polymer as recited in the instant claims. However, in view of the fact that the process of preparing polymer is substantially the same as that recited in the instant claims, a reasonable basis exists to believe that the resulting polymer exhibits substantially the same properties and characteristics. (It is

[†] McDaniel *et al.* (col. 4, lines 40-45) teaches that known metallocenes are used to make inventive catalysts such as those shown in Geerts (U.S. 5,480,848; col. 7, line 2) and Palackal *et al.* (U.S. 5,401,817; claim 9), the entire disclosure of which is incorporated by reference.

Art Unit: 1796

noted that the claims are drawn to a method of polymerizing olefin, rather than a process for making film. It is the examiner's position that the film properties recited in the instant claims are conditional properties, rather than inherent properties, because a variety of factors such as stretching methods, nucleation, *inter alia*, directly affect film clarity and film haze). Since the PTO can not perform experiments, the burden of proof is shifted to the Applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112-2112.02. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

8. Claims 1-15, 18-33, 36-39, 42, 43, and 46-48 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Collins *et al.* (U.S. 6,524,987).

Collins *et al.* teaches a catalyst comprising a transition metal complex, an organoaluminum, and a solid oxide treated with an electron withdrawing anion. The support is a zinc containing halided (*i.e.*, fluorided, chlorided, or bromided) alumina or silica-alumina (col. 7, lines 35-40; col. 8, lines 16-65). The organoaluminum compounds are shown in col. 6, lines 13-24. Transition metal complexes are shown in the text in columns 5-10; see also claim 14. The compounds $\text{Ph}_2\text{C}(\text{Cp})(\text{Flu})\text{ZrCl}_2$ (organometal B) and $\text{Ph}(\text{Me})\text{C}(\text{Flu})(\text{Cp})\text{ZrCl}_2$ (organometal C) are representative. Other bridged metallocenes that are useful for practicing the invention include $\text{Me}_2\text{C}(\text{Cp})(\text{Flu})\text{ZrCl}_2$.[†] Catalysts are used to prepare copolymer of ethylene with other alpha olefins (col. 12, lines 23-26). Reactions are carried out in isobutane diluent (col. 14, line 49). Additional activator such as aluminoxane or borates may be used in conjunction with the inventive catalysts (col. 11, lines 56-60).

Collins *et al.* is deficient in characterizing polymers derived from catalysts containing compounds B and C, *inter alia*, as recited in the instant claims. However, in view of the fact that the process of preparing polymer is substantially the same as that recited in the instant claims, a reasonable basis exists to believe that the resulting polymer exhibits substantially the same properties and characteristics. (It is noted that the claims are drawn to a method of polymerizing olefin, rather than a process for making film. It is the examiner's position that the film properties recited in the instant claims are conditional properties, rather than inherent properties, because a

Art Unit: 1796

variety of factors such as stretching methods, nucleation, *inter alia*, directly affect film clarity and film haze). Since the PTO can not perform experiments, the burden of proof is shifted to the Applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112-2112.02. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

9. Claims 1-15, 18-33, 36-39, 42, and 43 are rejected under 35 U.S.C. 102(e) as anticipated by McDaniel *et al.* (U.S. 6,548,441).

McDaniel *et al.* teaches a catalyst comprising a transition metal complex, an organoaluminum, and a solid oxide treated with an electron withdrawing anion. The support is a nickel containing, chlorided or bromided alumina (col. 3, lines 1-4). The organoaluminum compounds are shown in col. 10, lines 40-50. Transition metal complexes are shown in the text in columns 5-10; see also claim 24. The compounds $\text{Ph}(\text{C}_8\text{H}_{16})\text{Si}(\text{Ind})_2\text{HfCl}_2$ (col. 6, line 52), and constrained geometry metallocene $\text{Me}_2\text{Si}(\text{N-}i\text{Pr})\text{TiCl}_2$ (col. 8, line 1) are representative. Other bridged metallocenes that are useful for practicing the invention include $\text{Me}_2\text{C}(\text{Cp})(\text{Flu})\text{ZrCl}_2$ and $\text{Ph}_2\text{Si}(\text{Cp})(\text{Flu})\text{ZrCl}_2$.[†] Catalysts are used to prepare copolymer of ethylene with other alpha olefins (col. 14, lines 21-24). Reactions are carried out in isobutane diluent (col. 14, line 45). Additional activator such as aluminoxane or borates may be used in conjunction with the inventive catalysts (col. 13, lines 56-60). Since the process disclosed in McDaniel *et al.* is substantially the same as that recited in the instant claims, it is held that the resulting polymer exhibits the claimed properties. It follows that films prepared from the polymer would also exhibit the claimed features.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Art Unit: 1796

10. Claims 1-15, 19-33, 37-39, 42, 43, and 46-48 are rejected under 35 U.S.C. 102(e) as being anticipated by Hawley *et al.* (U.S. 6,573,344).

Hawley *et al.* teaches a catalyst comprising a transition metal complex, an organoaluminum, and a solid oxide treated with an electron withdrawing anion. The support is a halided (*i.e.*, fluorided, chlorided or bromided) alumina or silica-alumina (col. 9, lines 22-24, col. 9, line 45-col. 10, line 38). The organoaluminum compounds are shown in col. 8, lines 6-17. Transition metal complexes are shown in the text in columns 4-7. The compound $\text{Ph}(\text{C}_3\text{H}_5)_2\text{Si}(\text{Ind})_2\text{HfCl}_2$ (col. 5, line 47) is representative. Other bridged metallocenes that are useful for practicing the invention include $\text{Me}_2\text{C}(\text{Cp})(\text{Flu})\text{ZrCl}_2$ and $\text{Ph}_2\text{Si}(\text{Cp})(\text{Flu})\text{ZrCl}_2$.[†] Catalysts are used to prepare copolymer of propylene and ethylene (col. 12, lines 41-56). Additional activator such as aluminosilicate or borates may be used in conjunction with the inventive catalysts (col. 13, lines 24-28). Since the process disclosed in Hawley *et al.* is substantially the same as that recited in the instant claims, it is held that the resulting polymer exhibits the claimed properties. It follows that films prepared from the polymer would also exhibit the claimed features.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

11. Claims 1-15, 19-33, 37-39, 42, 43, and 46-48 are rejected under 35 U.S.C. 102(e) as being anticipated by Hawley *et al.* (U.S. 6,667,274).

Hawley *et al.* teaches a catalyst comprising a transition metal complex, an organoaluminum, and a solid oxide treated with an electron withdrawing anion. The support is a halided (*i.e.*, fluorided, chlorided or bromided) or sulfated alumina or silica-alumina (col. 4, lines 30-45, col. 5, line 36-52). A preferred support material is zinc-containing chlorided alumina (col. 17, line 1). The organoaluminum compounds are shown in col. 12, lines 33-45. Transition

Art Unit: 1796

metal complexes are shown in the text in columns 9-12. The compound $\text{Ph}(\text{C}_8\text{H}_{16})\text{Si}(\text{Ind})_2\text{HfCl}_2$ (col. 10, line 15) is representative. Other bridged metallocenes that are useful for practicing the invention include $\text{Me}_2\text{C}(\text{Cp})(\text{Flu})\text{ZrCl}_2$ and $\text{Ph}_2\text{Si}(\text{Cp})(\text{Flu})\text{ZrCl}_2$.[†] Under slurry conditions, inventive catalysts effect the polymerization of propylene and ethylene very well (col. 14, lines 37-40). Additional activator such as aluminoxane or borates may be used in conjunction with the inventive catalysts (col. 13, lines 65-67). Since the process disclosed in Hawley *et al.* is substantially the same as that recited in the instant claims, it is held that the resulting polymer exhibits the claimed properties. It follows that films prepared from the polymer would also exhibit the claimed features.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

12. Claims 1-11, 14, 15, 18-29, 32, 33, 36-39, 42, 43, and 46-48 are rejected under 35 U.S.C. 102(e) as being anticipated by Thorn *et al.* (U.S. 2005/0113243).

Thorn *et al.* teaches a catalyst comprising a metal complex containing hydrocarbyl ancillary ligands, an organoaluminum, and a solid oxide treated with an electron withdrawing anion. The support is a halided (*i.e.*, fluorided, chlorided or bromided) or sulfated alumina or silica-alumina; see paragraphs [0018], [0019], and [0137]-[0143]. The organoaluminum compounds are disclosed in paragraph [0155]. Representative transition metal complexes are shown in paragraphs [0099], [0101], [0102], [0105]-[0109], [0111], [0114], and [0115]. Inventive catalysts are used for copolymerization of ethylene with alpha olefin; paragraph [0183]. Catalysts may further comprise an organozinc reagent, aluminoxane, or borate (paragraphs [0030]-[0039]). Isobutane is used as diluent for slurry processes (paragraph [0201]). Since the process disclosed in Thorn *et al.* is substantially the same as that recited in the instant

Art Unit: 1796

claims, it is held that the resulting polymer exhibits the claimed properties. It follows that films prepared from the polymer would also exhibit the claimed features.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

13. Claims 1-15, 18-33, 36-39, 42, 43, and 46-48 are rejected under 35 U.S.C. 102(e) as being anticipated by Jensen *et al.* (U.S. 7,041,617).

Jensen *et al.* teaches a catalyst comprising two tightly bridged transition metal complexes, an organoaluminum, and a solid oxide treated with an electron withdrawing anion. The support is a fluorided, chlorided, bromided, or sulfated alumina or silica-alumina (col. 4, lines 45-55). The organoaluminum compounds are disclosed in col. 32, lines 20+. Transition metal complexes are shown in the text in columns 14-21. The compounds $\text{Et(Ind)}_2\text{ZrCl}_2$, $\text{Me}_2\text{Si(2-Me-4-PhInd)}_2\text{ZrCl}_2$, and $\text{Me}_2\text{Si(2-MeInd)}_2\text{ZrCl}_2$ (column 15), *inter alia*, are representative. Tightly bridged *biscyclopentadienyl* metallocenes are depicted in columns 20 and 21. Inventive catalysts are especially useful for copolymerization of ethylene with alpha olefin (col. 38, lines 28-36; examples). Additional activator such as aluminoxane or borates may be used in conjunction with the inventive catalysts (columns 35 and 36). Isobutane is used as diluent (col. 41, line 63). Polymer products have a molecular weight distribution M_w/M_n of about 3 to about 15 (col. 48, line 36), and exhibit a HLMI/MI ratio greater than about 35 (Table 2). Since the process disclosed in Jensen *et al.* is substantially the same as that recited in the instant claims, it is held that the resulting polymer exhibits the claimed properties. It follows that films prepared from the polymer would also exhibit the claimed features.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37

Art Unit: 1796

CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Response to Arguments

14. The rejection of claims over McDaniel *et al.* (U.S. 6,548,442), set forth in the previous office action dated October 18, 2007, has been withdrawn. Claims have been amended to exclude zirconium treated solid oxides; amended claims have been rejected as failing to comply with the written description requirement (*supra*).

The rejection of claims over Hawley *et al.* (U.S. 6,667,274), set forth in the previous rejection has been withdrawn, and a new rejection based on this reference has been presented in this office action. Applicant submits that the Hawley *et al.* fails to disclose the subject matter of the amended claims because the reference examples do not show polymer having M_w/M_n of greater than or equal to about 4. The amended claims have been rejected as failing to comply with the written description requirement. It is also noted that examples correspond to polypropylene polymer prepared from only three types of catalyst.

The rejection of claims 46-48 over McDaniel *et al.* (U.S. 6,376,415) has been overcome by amendment.

The rejection of claims over Collins *et al.* (U.S. 6,524,987), set forth in the previous rejection has been withdrawn, and a new ground of rejection based on this reference has been presented in this office action. Applicant submits that the Collins *et al.* fails to disclose the subject matter of the amended claims because the reference examples do not show polymer exhibiting a HLMI/MI ratio greater than or equal to about 35. The amended claims have been rejected as failing to comply with the written description requirement. It is also noted that examples correspond to polymer prepared from only one type of catalyst.

The rejection of claims over McDaniel *et al.* (U.S. 6,750,302) has been withdrawn. Claims have been amended to exclude chromium treated solid oxides; amended claims have been rejected as failing to comply with the written description requirement.

Art Unit: 1796

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu S. Jagannathan, can be reached at (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

/Rip A. Lee/
Examiner, Art Unit 1796

February 18, 2008